AMENDMENTS TO THE CLAIMS

Please enter the following claim amendments and substitute the following set of claims for all claim sets previously presented:

1. (Previously Presented) In a synchronous machine, a rotor comprising:

a rotor core;

a super-conducting coil winding extending around at least a portion of the rotor core, said coil winding having a coil end section adjacent an end of said rotor core, and

end coil support attached to and bracing said end section and being thermally isolated from said rotor core, wherein the end coil support abuts at least one side surface of said coil end section, wherein said at least one side surface is in a plane substantially parallel to a rotor axis and said end coil support is wider than a width of the coil end section and covers the side of the coil end section.

2.(Previously Presented) In a rotor as in claim 1 wherein said at least one side surface of said coil end section is a pair of side surfaces of the coil end section, and said end coil support is a split clamp having a pair of opposing surfaces abutting the pair of side surfaces of the coil end section, wherein said opposing surfaces are each in a plane substantially parallel to said rotor axis

3.(Previously Presented) In a rotor as in claim 1 wherein said at least one side surface of said coil end section is a pair of side surfaces of the coil end section, and the end coil support includes a pair of plates between which sandwich the coil end section and said pair of plates each has a plate surface abutting one of the pair of side surfaces of

the coil end section, wherein said plate surfaces are each in a respective plane substantially parallel to said rotor axis.

4.(Previously Presented) In a rotor as in claim 1 further comprising a cryogenic coupling providing cooling fluid to said coil winding, wherein said end coil support is cooled by conduction from said coil winding.

5.(Previously Presented) In a rotor as in claim 1 further comprising a rotor end shaft having a slot to receive said coil end section and end coil support, and said end shaft is thermally isolated from said end coil support.

6.(Previously Presented) In a rotor as in claim 1 wherein said end coil support braces an entire length of said coil end section.

7.(Previously Presented) In a rotor as in claim 1 wherein said end coil support is transverse to an axis of the rotor core.

8.(Previously Presented) In a rotor as in claim 1 further comprising a second coil end section adjacent a second end of said rotor core, and a second coil support bracing the second end coil end section.

9.(Previously Presented) In a rotor as in claim 1 further comprising side coil supports attached to a long side section of said coil.

10.(Previously Presented) In a rotor as in claim 9 wherein said side coil supports further comprises at least one tension rod extending transversely through said rotor core, and coil housings attached to opposite ends of the tension rod, wherein said coil housings each attached to an opposite long side section of the coil.

11. (Original)In a rotor as in claim 10 wherein said tension rod extends through a conduit in the rotor core.

12. (Previously Presented) A method for supporting a super-conducting coil winding on a rotor core of a synchronous machine comprising the steps of:

a. bracing an end section of the coil winding with an end coil support attached to at least one side of the end section in a plane substantially parallel to a rotor core axis, and wherein the end coil support is wider than the at least one side of the end section of the coil winding and covers the side of the end section;

b. assembling the coil winding, end coil support and rotor core;

c. attaching a rotor end shaft to said rotor core;

d. thermally isolating the end coil support from the rotor core and shaft.

13. (Currently Amended) A method as in claim 12 wherein said at least one side surface of said end section is a pair of side surfaces on the end section, and wherein the end section is braced with a split ~~clamphaving~~ clamp having a pair of opposing surfaces abutting the pair of side surfaces, wherein said opposing surfaces are each in a respective plane substantially parallel to said rotor axis

14. (Original) A method as in claim 12 wherein the assembling step includes inserting the end section of the coil and the coil support into a slot of the rotor end shaft.

15.(Previously Presented) A method as in claim 12 wherein said at least one side surface of said end section is a pair of side surfaces of the coil end section, and the

bracing step includes applying plates to the pair of side surfaces of the end section, wherein the plates have opposite surfaces that are substantially parallel to the rotor coil axis.

16. (Original) A method as in claim 12 further comprising cryogenically cooling the coil, and cooling said end coil support by heat transfer between the coil and the coil support.

17. (Previously Presented) A rotor for a synchronous machine comprising:

a rotor core having at least one rotor core end orthogonal to a longitudinal axis of the rotor;

at least one end shaft attached to said rotor core end;

a race-track super-conducting (SC) coil winding extending around said rotor core and having a coil end section adjacent said rotor end;

a coil support brace attached to said coil end section and thermally isolated from said rotor core and rotor end shaft, wherein the coil support brace is affixed to at least one side surface of the coil end section, wherein said at least one side surface is substantially parallel to the axis of the rotor, and said coil support brace is wider than the at least one side surface of the coil end section, and covers the end section.

18. (Original) In a rotor as in claim 17 wherein said coil support brace is a split clamp.

19. (Original) In a rotor as in claim 17 wherein the coil support brace includes a pair of plates between which are sandwiched the coil end section.

20.(Original) In a rotor as in claim 17 further comprising a cryogenic coupling providing cooling fluid to said coil winding, wherein said coil support is cooled by conduction from said coil winding.

21. (Previously Presented) In a rotor as in claim 17 wherein said rotor end shaft has a slot to receive said coil end section and coil support, and said end shaft is thermally isolated from said coil support.

22. (Original) In a rotor as in claim 17 wherein said coil support brace covers an entire length of said coil end section.

23. (Original) In a rotor as in claim 17 wherein said coil support brace is transverse to an axis of the rotor core.

24. (Original) In a rotor as in claim 17 further comprising a second coil end section adjacent a second end of said rotor core, and a second coil support brace attached to the second coil end section.

25. (Original) In a rotor as in claim 17 further comprising coil side supports attached to a long side section of said coil.

26. (Currently Amended) In a rotor as in claim 17 further comprising at least one tension rod extending transversely through said rotor core, and coil ~~housingsattached~~ housings attached to opposite ends of the tension rod, wherein said coil housings each attached to an opposite long side section of the coil.

27. (Original) In a rotor as in claim 17 wherein said tension rod extends through a conduit in the rotor core.